CLAIMS

1. A procedure for fluidized bed cracking of a hydrocarbon charge in which cooling particles, which may optionally be catalytic, circulate in two successive reaction chambers (1 ; 16), in each of which they are put into contact with at least one cut of hydrocarbons, and the reaction effluents from each of said chambers are directed towards one and the same fractionating unit, characterized in that the effluents from each of the reaction chambers (1 ; 16) are cracked in part separately in the same partially partitioned fractionating column (12) and in that at least one cut (13, 44a) obtained through separately cracking the effluents of one of the two reaction chambers (1 ; 16) is, as a whole or in part, reinjected into the other chamber.

2. A procedure in accordance with Claim 1, characterized in that the hydrocarbons injected into the first reaction chamber (1) remain therein for a shorter period of time that the hydrocarbons injected into the second reaction chamber (16).

3. A procedure in accordance with Claim 1, characterized in that the hydrocarbons injected into the first reaction chamber (1) remain therein for between 0.05 and 5 seconds, preferably between 0.1 and 1 second.

4. A procedure in accordance with Claim 1, characterized in that the hydrocarbons injected into the second reaction chamber (16) remain therein for between 0.1 and 10 seconds, preferably between 0.4 and 5 seconds.

5. A procedure in accordance with Claim 1, characterized in that the charge and the parts flow in an essentially downward direction in the first reaction chamber (1).

6. A procedure in accordance with any one of the preceding Claims, characterized in that the charge and the parts flow in an essentially upward direction in the second reaction chamber (16).

7. A procedure in accordance with Claim 1, characterized in that, in said partially partitioned fractionating column (12), the heaviest effluents from each of the two reaction chambers are cracked separately, whereas the lightest effluents are combined.

8. A procedure in accordance with Claim 7, characterized in that said cut (13) obtained through separately cracking the effluents of one of the reaction chambers and which, as a whole or in part, reinjected into the other chamber contains slurry and/or a heavy distillate of the type HCO and/or a cut of the type diesel oil, such as LCO.

9. A procedure in accordance with Claim 7, characterized in that at least one cut (13) obtained through separately cracking the heaviest effluents of the first reaction chamber (1) is, as a whole or in part, reinjected into the second reaction chamber (16).

10. A procedure in accordance with Claim 1, characterized in that, in said partially partitioned fractionating column (12), the lightest effluents from each of the two reaction chambers are cracked separately, whereas the heaviest effluents are combined.

11. A procedure in accordance with Claim 10, characterized in that said cut (44a) obtained through separately cracking the effluents of one of the reaction chambers and which, as a whole or in part, reinjected into the other chamber contains gasoline.

12. A procedure in accordance with Claim 10, characterized in that at least one cut (44a) obtained through separately cracking the lightest effluents of the second reaction chamber (16) is, as a whole or in part, reinjected into the first reaction chamber (1).

13. A procedure in accordance with Claim 1, characterized in that said cut (13 ; 44a) obtained through separately cracking the effluents from one of the reaction chambers and which is, as a whole or in part, reinjected into the other chamber is, prior to such reinjection, combined with other hydrocarbon cuts.

14. A procedure in accordance with Claim 1, characterized in that said cut (13 ; 44a) obtained through separately cracking the effluents from one of the reaction chambers and which is, as a whole or in part, reinjected into the other chamber is, prior to such reinjection, subject to one or more intermediate treatments.

15. A procedure in accordance with Claim 14, characterized in that said intermediate treatment includes a hydrotreatment, e.g. hydrogenation, hydrodearomatization, hydrodesulfuration, hydrodeazotation.

16. A procedure in accordance with Claim 1, characterized in that upstream from the second reaction chamber (16), in addition to the particles from the first reaction chamber (1) an auxiliary quantity of particles from the regenerator (23) are introduced.

17. A device for the fluidized bed cracking of a hydrocarbon charge using two reaction chambers (1 ; 16) linked together by a means (10) for the transfer of cooling particles, a fractionating column (12) and conduits (7 ; 18) to supply the hydrocarbonated effluents from each of the two chambers (1 ; 16) to said fractionating column (12), characterized in that:

- said fractionating column (12) has, internally, at least two different areas: a first partitioned fractionating area (40) in the form of two compartments (38 ; 39), each of which communicates with a second common fractionating area (41);

- the conduits (7; 18) for the supply of effluents from the first and the second reaction chamber (1 ; 16) terminate, respectively, in the first and second compartment (39 ; 38) of said partitioned fractionating area (40);

- means (13 ; 44a) are provided for recycling and injecting, into one of the reaction chambers (1 ; 16) of at least one cut drawn off from the partitioned fractionating compartment of the effluents of the other reaction chamber.

18. A device in accordance with Claim 17, characterized in that said reaction chambers (1 ; 16) are different.

19. A device in accordance with Claim 17, characterized in that the first reaction chamber (1) is provided in the form of a notably vertical reactor with downward flow known by the name of "downer."

20. A device in accordance with Claim 17, characterized in that the second reaction chamber (16) is provided in the form of a notably vertical reaction with upward flow known by the name of "riser."

21. A device in accordance with Claim 17, characterized in that the partitioned fractionating area (40) corresponds to the lower part of the fractionating column (12).

22. A device in accordance with Claim 21, characterized in that the partitioned fractionating area (40) is separated into two compartments (38 ; 39) by using a notably vertical separation means (37 ; 37') extending from the back of the fractionating column (12) over a part of the height of the same.

23. A device in accordance with Claim 21, characterized in that the partitioned fractionating area (40) is separated into two compartments (38 ; 39) by using a notably horizontal separation means in the form of a plate (37") extending over a horizontal section of the column (12) and provided with one or several chimneys (50) permitting the passage towards the top, towards the common fractionating area (41), of the light effluents from the compartment (38) below said plate (37").

24. A device in accordance with Claim 17, characterized in that the partitioned fractionating area (40) corresponds to the upper part of the fractionating column (12).

25. A device in accordance with Claim 24, characterized in that the partitioned fractionating area (40) is separated into two compartments (38 ; 39) by using a notably vertical separation means (37 ; 37') extending from the head of the fractionating column (12) over a part of the height of the same.

26. A device in accordance with Claim 24, characterized in that the partitioned fractionating area (40) is separated into two compartments (38 ; 39) by using a notably horizontal separation means in the form of a plate (37") extending over a horizontal section of the column (12) and provided with one or several chimneys (50) permitting the passage towards the bottom, towards the common fractionating area (41), of the heavy effluents from the compartment (39) above said plate (37").

27. A device in accordance with Claim 22, characterized in that said separation means is provided in the form of a plane vertical wall (37).

28. A device in accordance with Claim 22, characterized in that said separation means is provided in the form of a cylinder-shaped vertical wall (37') whose axis of revolution runs parallel to the longitudinal axis of the fractionating column (12).